AMENDMENTS TO THE CLAIMS:

The listing of claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1-117. (PREVIOUSLY CANCELLED)

118. (CURRENTLY AMENDED) An isolated nucleic acid sequence that is selected from the group consisting of:

(i) a nucleic acid sequence that encodes a polypeptide having at least 95% sequence identity to the polypeptide of SEQ ID NO:2 and which specifically binds to a bitter ligand that specifically binds the T2R76 polypeptide of SEQ ID NO:2;

(ii) a nucleic acid sequence that has the sequence of SEQ ID NO:1; and

(iii) a nucleic acid sequence that hybridizes under high stringency conditions to the nucleic acid sequence of ~~in~~ SEQ ID NO:1 wherein high stringency conditions are incubating for 15 minutes in 0.1 X SSC at 65 degrees C and which isolated nucleic acid sequence encodes a taste receptor polypeptide that specifically binds to a bitter ligand that specifically binds to the T2R76 polypeptide of SEQ ID NO:2, and further wherein said isolated nucleic acid sequence is ~~operably~~ operatively linked to a heterologous ~~nucleic acid sequence~~ promoter that provides for the expression thereof in a recombinant host cell containing said isolated nucleic acid sequence.

119. (CURRENTLY AMENDED) The isolated nucleic acid sequence of claim 118 which encodes a polypeptide that possesses greater than 95% sequence identity to the polypeptide of

SEQ ID NO:2 and which specifically binds to at least one bitter ligand specifically bound by the T2R76 polypeptide ~~contained in~~ of SEQ ID NO: 2.

120. (CURRENTLY AMENDED) The isolated nucleic acid sequence of claim 118 which encodes a polypeptide having at least 99% sequence identity with the T2R76 polypeptide of SEQ ID NO: 2 and which polypeptide specifically binds at least one bitter ligand specifically bound by the T2R76 polypeptide of SEQ ID NO:2.

121. (PREVIOUSLY PRESENTED) The isolated nucleic acid sequence of claim 118 which comprises the sequence of SEQ ID NO: 1.

122. (PREVIOUSLY PRESENTED) The isolated nucleic acid sequence of claim 118 which encodes a polypeptide comprising the sequence of SEQ ID NO: 2.

123. (PREVIOUSLY PRESENTED) The isolated nucleic acid sequence of claim 118 which is selected from the group consisting of an mRNA, cRNA, cDNA and genomic sequence.

124. (CURRENTLY AMENDED) An expression vector containing an isolated nucleic acid sequence selected from the group consisting of:

(i) an isolated nucleic acid sequence which encodes a polypeptide having at least 95% sequence identity to the T2R76 polypeptide ~~contasined in~~ of SEQ ID NO:2 and which polypeptide specifically binds to a bitter ligand that is specifically bound by the T2R76 polypeptide of SEQ ID NO: 2

(ii) an isolated nucleic acid sequence that has the sequence of SEQ ID NO:1;

(iii) an isolated nucleic acid sequence that specifically hybridizes under high stringency conditions to the nucleic acid sequence of SEQ ID NO:1, wherein high stringency conditions are incubating for 15 minutes in 0.1 X SSC at 65 degrees C, and which isolated nucleic acid sequence encodes a T2R polypeptide that ~~speifically~~ specifically binds to a bitter ligand that specifically binds the T2R76 polypeptide of SEQ ID NO:2, and wherein said expression vector is capable of providing for the expression of said T2R polypeptide in a recombinant host cell containing said expression vector.

125. (PREVIOUSLY PRESENTED) The expression vector of claim 124 wherein said vector is selected from the group consisting of a plasmid, cosmid, bacteriophage, transposon-mediated transformation vector and virus.

126. (PREVIOUSLY PRESENTED) The expression vector of claim 125 wherein the vector is a viral vector.

127. (PREVIOUSLY PRESENTED) The expresssion vector of claim 125 wherein the vector is a plasmid.

128. (PREVIOUSLY PRESENTED) The isolated nucleic acid sequence of claim 118 which is operably linked to an inducible promoter.

129. (PREVIOUSLY PRESENTED) The isolated nucleic acid sequence of claim 118 which is operably linked to a constitutive promoter.

130. (CURRENTLY AMENDED) An isolated ~~or~~ recombinant cell containing the isolated nucleic acid sequence of claim 118 wherein said cell further expresses a sequence encoding a G protein that functionally couples to the T2R76 polypeptide encoded by said isolated sequence.

131. (PREVIOUSLY PRESENTED) The cell of claim 130 wherein said G protein is a promiscuous G protein.

132. (PREVIOUSLY PRESENTED) The cell of claim 130 wherein said G protein is selected from the group consisting of Galpha15, Galpha16, Gq, gustducin and transducin.

133 (PREVIOUSLY PRESENTED) The isolated nucleic acid molecule of claim 118 which further comprises a sequence that encodes a detectable marker.

134. (CURRENTLY AMENDED) An isolated ~~or~~ recombinant host cell that has been transfected or transformed with an isolated nucleic acid sequence according to claim 118.

135 (PREVIOUSLY PRESENTED) The isolated host cell of claim 134 which is a eukaryotic cell.

136. (CURRENTLY AMENDED) The isolated ~~or~~ recombinant host cell of claim 134 which is selected from the group consisting of mammalian cells, insect cells, amphibian cells, bacterial cells, and yeast cells.

137. (CURRENTLY AMENDED) The isolated ~~or~~ recombinant host cell of claim 134 which is selected from the group consisting of an HEK-293 cell, CV-1 cell, HeLa cell, COS cell and a Sf9 cell.

138. (CURRENTLY AMENDED) The isolated ~~or~~ recombinant host cell of claim 134 which is a human cell.

139. (CURRENTLY AMENDED) The isolated ~~or~~ recombinant host cell of claim 134 which is a HEK-293 cell.

140. (CURRENTLY AMENDED) The isolated ~~or~~ recombinant host cell of claim 138 which further expresses a G protein that functionally couples with the T2R76 polypeptide encoded by said isolated nucleic acid sequence.

141. (CURRENTLY AMENDED) The isolated ~~or~~ recombinant host cell of claim 134 which further expresses another T2R polypeptide.